

REMARKS

Claims 1-9 and 13-24 remain in the application. Claims 12 and 16 are withdrawn from consideration. The subject matter of claims 10 and 11 (now cancelled) has been incorporated into claim 1.

Anticipation Rejections

Claims 1 and 3-6 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,057,607 to Soehngen et al. Claims 1, 3, 4, 6, 7 and 9 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,320,048 to Harmuth. Claim 1 has been amended to incorporate elements of claims 10 and 11. Hence, the anticipation rejections of claim 1 (and all dependent claims) are moot.

Obviousness Rejections

Claims 2, 5, 7, 8, 10, 11, 13-15, 17-19 and 21-24 are rejected under 35 U.S.C. §103(a) for obviousness over the Harmuth patent, alone or in combination with the following references as set forth in the chart below:

Rudolph: U.S. Patent No. 4,684,488
 Fintel: U.S. Patent No. 4,919,872
 Chang: U.S. Patent No. 4,973,439
 Rathschlag: U.S. Patent No. 6,638,353
 Dietz: U.S. Patent No. 6,537,364
 Vanier: U.S. Patent Application No. 2003/0125417

Claim	Reference(s) applied in obviousness rejections
2	Harmuth + Rudolph (or Fintel)
5	Harmuth
10, 11	Harmuth + Chang
7, 8	Harmuth + Rathschlag (or Dietz)
13, 15	Harmuth + Vanier (or Dietz)
14	Harmuth + Vanier (or Dietz) + Rudolph (or Fintel)
21, 22	Harmuth + Vanier (or Dietz) + Chang
17-19	Harmuth + Vanier (or Dietz) + Rudolph (or Fintel)
23, 24	Harmuth + Vanier (or Dietz) + Rudolph (or Fintel) + Chang

These rejections are traversed for the following reasons.

Claims 1-9

Claim 1 is amended to indicate that Step (B) involves injecting the hard to incorporate additive from a pressure vessel where the pressure vessel has a pressure that is maintained at less than 100 psi, which is considered to be a low pressure vessel. Amended claim 1 and dependant claims 2-9 define over the prior art of record, which fail to (alone or in any combination) teach or suggest a process for manufacturing thermosetting powder coatings by injecting a hard to incorporate additive at low pressure.

In rejecting the subject matter of original claim 11 (reciting use of a low pressure vessel with a mechanism for maintaining the pressure in the vessel at less than 100 psi), the Examiner asserts that the pigment dispersion disclosed by Harmuth would implicitly be fed from some type of vessel, and that such a vessel is "reasonably understood to be a low-pressure vessel". The only "reason" that the Examiner gives for asserting that Harmuth would use a low pressure vessel is that it would minimize the cost of operation and minimize vapor emissions. This reasoning, however, is directly counter to the teachings of the cited references.

In particular, the Harmuth patent discloses a method of producing powder coating compositions by introducing a pigment dispersion into a melt extruder containing a resin composition, where at least some (up to 60%) of the pigment dispersion is a volatile dispersing liquid. By including the pigment dispersion in a volatile dispersing liquid, the content of the extruder will necessarily be at high pressure. This is evidenced by the need to devolatilize the dispersing liquid as described in the Harmuth patent at col. 5, lines 1-7. Similarly, the Chang patent directed to extrusion of toner particles at a pressure of about 200-1500 psi also calls for volatilization of vapors (via vacuum extraction) at col. 6, lines 35-36. Any such system (as disclosed by Harmuth and Chang) operated with volatile materials that must be extracted to reduce pressure, is necessarily operated at high pressure. Accordingly, both Harmuth and Chang teach against low pressure operation of an extruder.

In contrast thereto, the present invention is operated in a process under significantly lower pressure, namely less than 100 psi. By operating at low pressure, the steps as set forth in claim 2 of dynamic control of the thermosetting powder coating produced by the process are achievable. In support of the non-obviousness of the subject matter of amended claim 1 and dependant claims 2-9, Applicants submit the accompanying Declaration Under 37 KY7166.DOC

C.F.R. §1.132 of Joseph M. Ferencz, an inventor of the present application. Mr. Ferencz's Declaration demonstrates that one skilled in the art would not consider operating the processes of either Harmuth or Change at low pressure.

The secondary references (Rudolph and Fintel) do not account for the failure of Harmuth or Chang to consider low pressure operation of an extruder.

Accordingly, claims 1-9 and 12 define over the cited references.

Claims 13-15 and 17-24

Claim 13 is directed to a process for manufacturing thermosetting powder coating compositions involving adding a hyperdispersed pigment to a base material. The hyperdispersed pigment is in the form of "a dried liquid pigment dispersion" (emphasis added) that was formed from a liquid pigment dispersion.

In contrast, the Harmuth patent is directed to a method of producing pigmented powder coating compositions in which pigment is introduced into a melt extruder containing a resin where the pigment is dispersed in a volatile liquid. The pigment added to resin in the melt extruder of Harmuth is not dried; it is dispersed in a liquid. Harmuth teaches away from dry pigment addition at least at col. 1, line 66 to col. 2, line 8 (the pigment component contains at least some (up to 60 wt. %) volatile dispersing liquid); col. 2, lines 43-45 (volatile dispersing liquid of pigment dispersion); col. 4, lines 6-34 (preparation of pigment dispersion); and col. 5, lines 51-60 (Example using toluene as pigment dispersant).

The Vanier publication and Dietz patent are cited for teaching finely divided pigments. However, there is no rational underpinning to supplant Harmuth's teaching to use a liquid pigment dispersion with a dried dispersion. Not only does Harmuth teach away from a dried dispersion, but neither Vanier nor Dietz disclose the benefit of adding a dried liquid dispersion to an extruder.

Therefore, there is no rationale to support the rejections of claims 13-15, 21 and 22.

Claim 17


Claim 17 is directed to a process for dynamic color control in a thermosetting powder coating extrusion process, which also includes a step of adding hyperdispersed pigments to a base material in an extruder, where the hyperdispersed pigments are in a dried form. Claim 17 (and dependant claims 18, 19, 23 and 24) define over the combined teachings

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of Harmuth plus Vanier/Dietz with the Rudolph/Fintel references for the same reasons that claim 13 defines thereover. One skilled in the art would have no reason to use a dried pigment dispersion in a melt extruder as disclosed by Harmuth since this is directly counter to Harmuth's teachings. Accordingly, claims 17-19, 23 and 24 define over the cited references.

Reconsideration of the rejections and allowance of claims 1-9, 13-15 and 17-24 are respectfully requested.

Respectfully submitted,


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